

What is claimed is:

1. An optical pickup comprising:

a half mirror;

a base made of synthetic resin and having a beam passage  
5 hole which penetrates the base and in which the half mirror  
is disposed, a laser hole communicating with the beam passage  
hole, a diffraction grating operating hole provided to penetrate  
a laser hole side wall portion of the base, a laser mounting  
surface formed around an opening portion of the laser hole,  
10 and a notch groove formed in the laser hole side wall portion  
so as to range from the laser mounting surface to the operating  
hole;

a photodiode disposed in an opening portion at one end  
of the beam passage hole;

15 a collimator lens and an objective lens disposed in an  
opening portion at the other end of the beam passage hole;

a laser diode disposed in the laser hole;

a diffraction grating disposed in the laser hole;

a photodiode supporting holder made of metal and attached  
20 to the laser mounting surface and having a plurality of radiator  
fins projecting thereon and a fitting piece integrally formed  
so as to project thereon and removably fitted into the notch  
groove, and a lock hole provided to penetrate the holder coaxially  
with the laser hole; and

25 a radiator plate,

wherein the operating hole is defined between a forward end of the fitting piece and an inner end of the notch groove,

an operating rod inserted into the operating hole is brought into contact with an outer circumferential surface of the  
5 diffraction grating so as to rotate the diffraction grating at a predetermined angle,

the laser diode is fitted into the lock hole of the holder while the radiator plate is attached to an outer surface of the holder, so that the laser diode is held between the radiator  
10 plate and the holder,

screws are screwed down into threaded holes formed in the laser mounting surface, the screws penetrating the radiator plate and the holder so that the radiator plate and the holder are fixed to the base,

15 a recess portion is formed in the laser mounting surface except circumferential edge portions of the threaded holes, so that an air gap is defined between the holder and the base through the recess portion, and

a laser beam is projected from the laser diode onto a  
20 disk through the diffraction grating, the half mirror, the collimator lens and the objective lens, whereupon the beam reflected from the disk is received by the photodiode through the half mirror so that information recorded in the disk can be read.

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2. An optical pickup comprising:

a base made of synthetic resin and having a laser hole,  
a diffraction grating operating hole provided to penetrate  
a laser hole side wall portion of the base, a laser mounting  
5 surface formed around an opening portion of the laser hole,  
and a notch groove formed in the laser hole side wall portion  
so as to range from the laser mounting surface to the operating  
hole;

a laser diode disposed in the laser hole;

10 a diffraction grating disposed in the laser hole; and

a photodiode supporting holder made of metal and attached  
to the laser mounting surface and having a fitting piece  
integrally formed so as to project thereon and removably fitted  
into the notch groove,

15 wherein the operating hole is defined between a forward  
end of the fitting piece and an inner end of the notch groove,  
and

an operating rod inserted into the operating hole is brought  
into contact with an outer circumferential surface of the  
20 diffraction grating so as to rotate the diffraction grating  
at a predetermined angle.

3. The optical pickup according to Claim 2, wherein  
the laser diode is fitted into a lock hole provided to penetrate  
25 the holder coaxially with the laser hole, while a radiator

plate is attached to an outer surface of the holder, so that the laser diode is held between the radiator plate and the holder.

5           4.    The optical pickup according to Claim 3, wherein screws are screwed down into threaded holes formed in the laser mounting surface, the screws penetrating the radiator plate and the holder so that the radiator plate and the holder are fixed to the base.

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          5.    The optical pickup according to Claim 4, wherein a recess portion is formed in one or both of an inner surface of the holder and the laser mounting surface except circumferential edge portions of the threaded holes, so that  
15 an air gap is defined between the holder and the base through the recess portion.

          6.    The optical pickup according to Claim 2, wherein a plurality of radiator fins are provided to project from the  
20 holder.